REMARKS

I. STATUS OF THE CLAIMS

Claims 1-14 are pending and under examination. Applicants have added new claims 13 and 14, which are supported by the specification at, for example, Example 1 on page 18, lines 35-38. Accordingly, claims 13 and 14 do not add new matter.

Applicants note that the Office did not reassert or address in the Advisory Action the rejection of claims 1-12 under 35 U.S.C. § 112, second paragraph, as initially made in the Final Office Action mailed January 5, 2010 ("Office Action"). *See* Office Action, p. 2. As such, Applicants believe that the Office has withdrawn this rejection in light of Applicants' response as filed on April 21, 2010. Applicants respectfully request that the Office clarify the status of this rejection.

The Office has maintained the two rejections of claims 1-12 under 35 U.S.C. § 103. Applicants address below these remaining rejections in light of the Office's comments in the Advisory Action.

II. REJECTIONS UNDER 35 U.S.C. § 103

A. Rejection of claims 1-12 as allegedly unpatentable over Amen et al.

The Office continues to reject claims 1-12 under 35 U.S.C. § 103(a) as allegedly unpatentable over Amen et al. (WO 89/02702; hereinafter "R1"). Advisory Action, p. 2. Applicants respectfully disagree and traverse the rejection, because the Office has not established a *prima facie* case of obviousness. The Office still has not met the burden of showing why it would have been obvious to modify R1 in order to obtain "[a] yogurt, characterized in that it has a bimodal structure . . . and further characterized in that the yogurt comprises 7% to 14% by weight of a homogenized cream, relative to the total

weight of the finished product," as recited by claim 1, upon which the remainder of the claims ultimately depend.

The Office contends that the product in R1 "is an aerosol dispensable yogurt which incorporates cream into yogurt basically at the same proportions (by weight) as presently claimed." *Id.* at 2. Based on this interpretation of R1, the Office further reasons that the product "should be a uniform mixture . . . [that] requires the yogurt and the incorporated cream to be in the form of an emulsion." *Id.* If the product of R1 is an emulsion, the Office reasons, "fat globules should have a certain range of particle size for the emulsion to be stable which is *only* achieved through the use of homogenized cream." *Id.,* emphasis added. Regarding particle size, the Office also previously stated that "the free fat globules will intrinsically possess the particle diameter as disclosed" and "[t]he fat globules associated with the yogurt (protein-fat network) will have the particle size of fat globules in a regular yogurt." Office Action, p. 3. Applicants respectfully disagree with the Office's interpretation of R1 as set forth below.

First, and most importantly, the Office provides no support in R1 or elsewhere for the many assumptions it makes about the nature of the product taught in R1. As the M.P.E.P. instructs, "when an examiner relies on a scientific theory, evidentiary support for the existence and meaning of that theory must be provided." M.P.E.P. § 2144.02. Indeed, R1 does not discuss homogenized cream at all, much less that homogenized cream is necessary to ensure the stability of the aerosol dispensable yogurt. Specifically, the examples in R1 appear to teach that skim milk, a stabilizer system, nonfat dry milk, sodium caseinate, and gelatin are mixed, HTST pasteurized, and homogenized. In the examples, "cream" was added after culturing. *See* R1, p. 12, ll. 1-

8 and 34-37. Moreover, R1 teaches "cream" as an "optional" dairy ingredient for its products, not a required component. *See id.*, p. 9, ll. 19-22. Even if the artisan decided to use "cream" as one of the optional ingredients, R1 clearly teaches that such "cream" would be "pasteurized cream" that may be added "[o]nce culturing is completed." *Id.* Based on this teaching, one of ordinary skill in the art, if electing to add this "optional" ingredient for some reason that the Office has not yet articulated, would have understood that the "cream" which was added in Examples I and II of R1 after culturing would have been pasteurized, not homogenized. Notably, the authors of R1 were aware of the existence of the process of homogenization (see, e.g., page 9, lines 1-5) but purposefully chose to describe the optional "cream" as pasteurized cream, not homogenized cream. As Applicants will explain below, homogenized cream is not necessary for the stability of the product taught in R1, nor would the artisan have used homogenized cream in such a preparation, contrary to the Office's unsupported assumptions. In sum, the examples of R1 do not describe that the "cream" added is homogenized before addition to the rest of the product or that such a step is necessary. If anything, R1 appears to teach that such "cream" would be pasteurized, not homogenized. Instead, the examples provide that "cream" along with sugar were blended into the mixture until dissolved and then the blend was flavored and packaged into an aerosol can.

Second, as Applicants noted above, homogenized cream is not necessary for the stability of the products taught in R1. Specifically, R1 teaches that the aerosol dispensable yogurt is shelf-stable because of a "*unique stabilizer system*" composed of microcrystalline cellulose, carboxymethylcellulose, and a hydrophilic gum or colloid. R1,

p. 1, ll. 9-12 (emphasis added); p. 5, ll. 14-22. The hydrophilic gums and colloids "interact with milk proteins to form gels and colloids which aid in giving 'body' to the product." Id., p. 7, ll. 8-13. Thus, the products of R1 are stable because of the use of these stabilizing agents, indicating that such stability does not require the use of homogenized cream as the Office assumes. Yet, the Office continues to maintain that homogenized cream is crucial for the stability of the aerosol dispensable yogurt described in R1 despite the fact that R1 does not teach or suggest such an assertion. In addition, the Office has pointed to no other evidence in support of its assumption.

Third, not only does R1 not teach the use of homogenized cream, one of skill in the art would not have used homogenized cream in the aerosol dispensable yogurt products described in R1. R1 states that the yogurt of the invention is "dispensed from their aerosol containers in the form of *whipped*, creamy foams . . . ." R1, p. 1, ll. 13-17 (emphasis added). However, as indicated by pages 393-399 from the book *Food and Bio Process Engineering: Dairy Technology*, by H.G. Kessler, 5th ed. 2002, published by A. Kessler (hereinafter *Kessler*) submitted herewith in an IDS, non-homogenized cream has better whipping properties than homogenized cream, in particular on the whipping time. Thus, one of ordinary skill in the art would have understood that when a cream is used in products intended to be whipped, the cream should be non-homogenized.

Even assuming, *arguendo*, that homogenized cream was used in R1, which Applicants dispute, then the final product obtained in R1 would have had different physical characteristics than the ones claimed. The fat content of the "cream" used in products of R1, not including the minimal amount that may be included by an added

flavoring, is not expressly indicated. This fat content can, however, be calculated as follows:

- Page 9, lines 29-31 of R1 provide that "the fat content of the product should be at least about 8%, and preferably from about 9% to about 11%, by weight, based on the total weight of the finished product."
- Example 1, at pages 11-12, provide the total amount of ingredients in the product is 2040 parts (932.8 + 10.6 +250 + 25 + 5 + 40 + 488.6 +218 + 70).
- The fat in the finished product is from the "cream" and skim milk which contains 1% fat. To obtain the finished product, 932.8 parts of skim milk with 1% fat and 488.6 parts of "cream" are used, which corresponds to 45.72% of skim milk with 1% fat and 23.95% of "cream."
- Based on the above calculations, if the product contains 8% fat, then the "cream" should contain 31% fat.
- If the product contains 9% fat, then the "cream" should contain 36% fat.
- If the product contains 11% fat, then the "cream" should contain 44% fat.

The above calculations demonstrate that, depending on the fat content of the total product (i.e., 8% to 11%), the amount of fat in the "cream" used in these products was very high, on the order of 31% to 44% fat.

In contrast, Applicants note that the fat content of the "cream" used in R1 is higher than the fat content recited in new claims 13 and 14, which recite "that the homogenized cream has a fat content of at most 20% by weight relative to the total weight of the cream." Moreover, Figure 5.32 on page 123 of *Kessler* indicates the optimum homogenizing pressure as a function of the fat content. When the fat content of the cream is above 30%, the pressure should be 75 bars, *i.e.* 7.5 MPa, and when the fat content is above 40%, the pressure should decrease to 35 bars, *i.e.* 3.5 MPa. In the present application as indicated on pages 12-13, the homogenization pressure of the cream used should be between about 150 and 350 kg/cm^2 (*i.e.* between about 150 bars and 350 bars). Therefore, if the "cream" in R1 was homogenized, which Applicants do not concede, the pressure used in the homogenization of "cream" with such a high fat content, as instructed by *Kessler*, would be lower from the pressure taught in the instant application.

Kessler also teaches that a difference in homogenization pressure leads to a difference in the physical characteristics of the free fat particles. Figure 5.14 on page 116 of *Kessler* provides the particle size distribution of fat globules found in milk at various homogenizing pressures. This Figure shows that when lower homogenizing pressure is used, the particle size distribution is broader. Specifically, when 75 bars of pressure is used, *i.e.* around 8 MPa, the particle size distribution is between 0 to 3.5 μm and when a pressure of 35 bars is used, *i.e.* around 2.5 MPa, particle size distribution is between 0 and more than 4 μm. In contrast, when using the homogenizing pressures taught in the instant application, the particle size distribution of free fat particles is narrower with more particles having the same low particle size, which impacts the

organoleptic properties of the yogurt. Thus, the final product obtained in R1 would have different physical characteristics than the ones claimed.

Furthermore, as indicated on page 118, second column, first paragraph of *Kessler*, the viscosity of the cream elevates as the fat content increases. Given that the products of R1 are designed for distribution in aerosol form, such viscosity would impede this method of distribution. In fact, when adding the process of homogenizing to an already viscous cream, the viscosity then increases exponentially as shown in the center panel of Figure 5.21 on page 119 of *Kessler*, which shows the results of homogenization of cream preparations with increasing fat content. If there is more than 30% fat (i.e., 31% to 44%) in the cream, the viscosity of the homogenized cream would be so high that it would not have been possible to use it in R1's aerosol products, again suggesting that the artisan would not have used homogenized cream in the products of R1. Thus, based on at least the teachings of *Kessler*, one of ordinary skill in the art would not have homogenized the "cream" present in the aerosol products of R1, especially given the high fat content of the "creams" used in the products of R1.

Finally, Applicants respectfully disagree with the Office's contention that R1 "incorporates cream into yogurt *basically at the same proportions* (by weight) as presently claimed." Advisory Action, p. 2 (emphasis added). However, only the examples in R1 appear to contemplate adding a "cream" to the product. In those examples, 488.60 parts (Example I) and 472.00 parts (Example II) "cream" are incorporated which corresponds to 23-24% "cream" in the final product. In contrast, claim 1 recites that "the yogurt comprises 7% to 14% by weight of a homogenized cream, relative to the total weight of the finished product." There is no overlap between

the concentration range recited in independent claim 1 and the apparent concentration ranges discussed in Examples I and II of R1.

For at least these reasons, Applicants submit that R1 would not have taught, suggested, or rendered obvious "[a] yogurt, characterized in that it has a bimodal structure that comprises fat globules connected to the Protein-Fat mixed network and free fat globules, and further characterized in that the yogurt comprises 7% to 14% by weight of a homogenized cream, relative to the total weight of the finished product," as recited by claim 1, upon which the remainder of the claims ultimately depend. Applicants request that the Office withdraw this rejection accordingly.

B. Rejection of claims 1-12 as allegedly unpatentable over Van Dijk et al.

The Office continues to reject claims 1-12 under 35 U.S.C. § 103(a) as allegedly unpatentable over Van Dijk et al. (GB 1,476,309; hereinafter R2). Advisory Action, p. 3. Applicants respectfully disagree and traverse the rejection, because the Office has not established a *prima facie* case of obviousness.

The Office still has not met the burden of showing why it would have been obvious to modify R2 in order to obtain "[a] yogurt, characterized in that it has a bimodal structure . . . and further characterized in that the yogurt comprises 7% to 14% by weight of a homogenized cream, relative to the total weight of the finished product," as recited by claim 1, upon which the remainder of the claims depend.

In the Advisory Action, with respect to the homogenized cream, the Office states that "[t]he reasons for using a homogenized cream in a stable aerosol are mentioned above in 1a." *Id.* R2, however, is not directed towards an aerosol product, so the Office's rationale as laid out in 1a is irrelevant. Thus, the Office still has not provided

anything more than the conclusory statement that "in order for a whipped topping to be stable, the cream portion is expected to be homogenized." Office Action, p. 4. Yet, nowhere does R2 teach or suggest such an assertion and the Office has provided no other evidence to support it.

Indeed, as Applicants noted previously, R2 purports to disclose a new process for making "stable" whipped toppings, relying on something other than the type of "cream" the process starts with. Notably, R2 teaches stabilizers such as locust bean gum, guar gum, and carrageenan, which are taught in R1 as hydrophilic gums and colloids that "interact with milk proteins to form gels and colloids which aid in giving 'body' to the product." *See* R2, p. 1, right column, ll. 93-98 and R1, p. 7, ll. 1-13. Thus, as with R1, these stabilizers can lead to the stability of the products of R2 without the necessity for homogenizing the "cream" of R2 as the Office assumes. R2 does not discuss homogenization at all, much less teach or suggest that homogenized cream is necessary for a whipped topping to be stable.

Like R1, the products of R2 are whipped products. As discussed above, one of ordinary skill in the art would have recognized that non-homogenized cream had better whipping properties than homogenized cream, as pages 393-399 of *Kessler* instruct. Moreover, R2 teaches that the fat content of the contemplated "cream" is 40%. See R2, p. 1, ll. 47-50. As discussed above for R1, if the "cream" in R2 was homogenized, which Applicants do not concede, the pressure used in the homogenization of "cream" with such a high fat content, as instructed by *Kessler*, would be lower than the pressure taught in the instant application.

Kessler also teaches that a difference in homogenization pressure also leads to a difference in the physical characteristics of the free fat particles as discussed above for Figure 5.14 of *Kessler*. The Figure shows that when lower homogenizing pressure is used, the particle size distribution is broader. Specifically, when 75 bars of pressure is used, *i.e.* around 8 MPa, the particle size distribution is between 0 to 3.5 μm and when a pressure of 35 bars is used, *i.e.* around 2.5 MPa, particle size distribution is between 0 and more than 4 μm. In contrast, when using the homogenizing pressures taught in the instant application, the particle size distribution is narrower with more particles having the same low particle size, which has an impact on organoleptic properties.

In sum, the particle size distribution of the free fat globules in the claimed yogurt comes from the particle size distribution of the homogenized cream used for preparing the yogurt. *See* specification, p. 9, l. 25 to p. 10, l. 1 and Example 3. Even if the artisan homogenized the high fat "cream" of R2, which R2 does not suggest, *Kessler* teaches that lower homogenization pressures should be used, leading to differences in physical characteristics and organoleptic properties as discussed above for R1.

In addition, the Office continues to argue that "cream and yogurt proportions as disclosed by R2 are *slightly different* from cream and yogurt proportions as presently claimed." Advisory Action, p. 3 (emphasis added). However, claim 1 recites a yogurt that "comprises 7% to 14% by weight of a homogenized cream, relative to the total weight of the finished product," while R2 discloses compositions in which the "cream" component is at least 43% (Example II), 50% (Example IV), or 63% (Examples I and III). As Applicants noted previously, the concentration of cream in the finished product as contemplated by claim 1 and the concentration ranges of "cream" in R2's products are

very different. Thus, the teaching in R2 on this point is not merely "slightly different" as the Office suggests.

For at least these reasons, Applicants submit that R2 would not have taught, suggested, or rendered obvious "[a] yogurt, characterized in that it has a bimodal structure that comprises fat globules connected to the Protein-Fat mixed network and free fat globules, and further characterized in that the yogurt comprises 7% to 14% by weight of a homogenized cream, relative to the total weight of the finished product," as recited by claim 1, upon which the remainder of the claims depend. Applicants request that the Office withdraw this rejection accordingly.

III. CONCLUSION

In view of the foregoing remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of claims 1-14.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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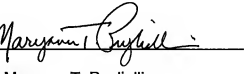
By: 

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